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**Addendum 2 to the CRI Technical Report (Version: 2015, Update 1)**

This document updates the Technical Report (Version: 2015, Update 1) and explains the methodology that the Credit Research Initiative (CRI) uses to collect additional default events for India. This change has been implemented for the computation of the Probabilities of Defaults (PDs) and Actuarial Spreads (AS) starting from 15 January 2016.

### **I. Identification of additional default events in India**

A well-representative sample of the default events is crucial to the quality of the RMI-CRI Probability of Default (PD) model. To collect the events, the CRI team searches various sources, including the Bloomberg credit event database, bourses' announcements and news websites. The CRI default database is updated on a regular and continuous basis. Despite such effort, the default events in India are found to be not well representative simply based on the CRI original data sources.<sup>1</sup> To enhance CRI's default coverage, the team has started in December 2015 to use "defaults" reported by major credit rating agencies as an addition data source.

Specifically, CRI firstly identifies the "Downgrades to Default Rating" reported by credit rating agencies. Although rating agencies adopt different default definitions, an issuer is commonly assigned a 'D' rating or a default equivalent<sup>2</sup> rating when the firm is in default or in breach of an imputed promise with little prospect for recovery of principal or interest. For example, Fitch Ratings assigns an 'RD' rating when an issuer has defaulted on a bond payment but continues to meet other payment obligations. CRI then applies CRI's definition of defaults (please refer to the RMI-CRI Technical Report Version: 2015, Update 1 for details) and uses other references such as media coverage to cross-check the validity of the reported defaults. This refined search method has led the CRI team to identify 76 additional "valid" defaults out of 280 "Downgrades to Default Rating" for India that were reported by credit rating agencies but not in the CRI original database. Among the 76 events, only a portion takes effect in RMI-CRI PD model calibration and PD calculation due to, for example, the default event processing and the lack of input variables.

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<sup>1</sup> The CRI team thanks Prof. Sandeep Juneja at Tata Institute of Fundamental Research for raising the issue on the quality of default data for India.

<sup>2</sup> Some rating agencies such as Moody's assign a 'C' rating to indicate defaults.

The newly identified default events have brought a sizable change to India's credit risk profile. Take India's aggregate 1-year PD (measured by the median PD for all individual obligors) for example. The average value throughout the whole period up to November 2015 increases from 20.64bps in December 2015 calibration to 34.05bps in January 2016 calibration. For the value in November 2015 alone, the increase is from 8.89bps to 12.46bps. The 12-month Accuracy Ratio remains almost unchanged at 66.4%.

Going forward, the CRI team will apply this refined search method to India and other economies to collect the default events that might have been overlooked otherwise.